

WHAT IS CLAIMED IS:

1. An organic electroluminescent display device, comprising:

a substrate having a first conducting area, a second conducting area,
and an active area; wherein said active area locates adjacent to said first
5 conducting area and said second conducting area;

a plurality of connecting wires, which do not connect with each
other and are located outside said active area on said substrate;

a plurality of stripes of first electrodes located in said active area,
wherein said first electrodes connect to said connecting wires;

10 a plurality of first conducting lines, which do not connect with each
other and are located in said first conducting area on said substrate;

a plurality of second conducting lines, which do not connect with
each other and are located in said second conducting area on said substrate;

a plurality of second electrodes located in said active area, wherein
15 each of said second electrodes connects a first conducting line or a second
conducting line;

at least one organic electroluminescent medium located in said
active area, wherein said organic electroluminescent medium is sandwiched
between said first electrode and said second electrode;

20 an upper cover mounted over or on said active area of said substrate
for covering said active area;

a sealing layer sandwiched between said upper cover and said
substrate for sealing, surrounding said active area, and isolating said active
area from air or moisture; and

an insulating layer filled over said first conducting lines, said second conducting lines, and said connecting wires for isolating said first conducting lines, said second conducting lines, and said connecting wires from air or moisture;

5 wherein part of each first electrodes, each first conducting lines, each second conducting lines, and each connecting wires has at least one auxiliary metal layer and one transparent electrical conducting layer, and said transparent electrical conducting layer is sandwiched between said auxiliary metal layer and said substrate.

10 2. The organic electroluminescent display device as claimed in claim 1, wherein said insulating layer is made of SiO₂, TiO₂, or silicon nitride.

 3. The organic electroluminescent display device as claimed in claim 1, wherein said insulating layer is made of epoxy resin, unsaturated
15 polyester resin, TeflonTM resin, phenolic resin, or polyimide.

 4. The organic electroluminescent display device as claimed in claim 1, wherein said first conducting lines, said second conducting lines, and said connecting wires located outside said transparent electrical conducting layer do not have said auxiliary metal layer

20 5. The organic electroluminescent display device as claimed in claim 1, wherein said active area is located between said first conducting lines and said second conducting lines.

 6. The organic electroluminescent display device as claimed in claim 1, wherein said auxiliary metal layers of said first electrodes, said first

conducting lines, and said second conducting lines are made of aluminum, chromium, silver-copper alloy, or silver alloy.

7. The organic electroluminescent display device as claimed in claim 1, further comprising a plurality of isolating walls, which lies in
5 between said second electrodes in said active area or selectively on said first electrodes.

8. The organic electroluminescent display device as claimed in claim 1, further comprising a plurality of pixel-defining layers for insulating and defining each pixel-area of organic electroluminescent media,
10 wherein each of said pixel-defining layers is located on or between said adjacent organic electroluminescent media on said substrate or said first electrodes.

9. The organic electroluminescent display device as claimed in claim 8, wherein said pixel-defining layer is made of polyimide.

15 10. The organic electroluminescent display device as claimed in claim 1 further comprising at least one auxiliary electrode located on the surface of or embedded in said first electrodes or said second electrodes, wherein said auxiliary electrode located in said active area is made of aluminum, chromium, or silver alloy.

20 11. The organic electroluminescent display device as claimed in claim 1, wherein said transparent electrical conducting layer is made of InSnO_3 , SnO_2 , ZnO-doped In_2O_3 , CdSnO or antimony.

12. The display device as claimed in claim 1, wherein said second electrodes are made of aluminum, diamond, diamond like carbon (DLC),

calcium, copper-silver alloy, or magnesium-silver alloy.

13. The display device as claimed in claim 1, wherein said first electrodes are parallel to each other.

14. The display device as claimed in claim 1, wherein said second
5 electrodes are parallel to each other.

15. An organic electroluminescent display device, comprising:

a substrate having a first conducting area, a second conducting area,
and an active area; wherein said active area locates adjacent to said first
conducting area and said second conducting area;

10 a plurality of connecting wires located outside said active area on
said substrate, wherein said connecting wires do not connect with each
other;

a plurality of stripes of first electrodes located in said active area,
wherein said first electrodes connect to said connecting wires;

15 a plurality of first conducting lines located in said first conducting
area on said substrate and do not connect with each other;

a plurality of second conducting lines located in said second
conducting area on said substrate and do not connect with each other;

20 an upper cover mounted over or on said active area of said substrate
for covering said active area; and

a sealing layer sandwiched between said upper cover and said
substrate for sealing, surrounding said active area, and isolating said active
area from air or moisture;

wherein each first conducting line, each second conducting line, and

each connecting wire in said active area has at least one transparent electrical conducting layer and optionally an auxiliary metal layer, said transparent electrical conducting layer is sandwiched between said auxiliary metal layer and said substrate; and no auxiliary metal layer exists
5 in each first conducting lines, each second conducting lines, and each connecting wires outside said active area.

16. The organic electroluminescent display device as claimed in claim 15, further comprising, an insulating layer filled over said first conducting lines, said second conducting lines, and said connecting wires
10 for isolating said first conducting lines, said second conducting lines, and said connecting wires from air or moisture

17. The organic electroluminescent display device as claimed in claim 15, wherein part of said first electrodes located between said sealing layer and said active area, part of said first conducting lines, part of said
15 second conducting lines, and part of said connecting wires have a transparent conducting layer and optionally have at least one auxiliary metal layer.

18. The organic electroluminescent display device as claimed in claim 15, wherein said active area is located between said first conducting
20 area and said second conducting area.

19. The organic electroluminescent display device as claimed in claim 15, wherein said transparent electrical conducting layer is made of InSnO_3 , SnO_2 , ZnO-doped In_2O_3 , CdSnO or antimony.

20. The organic electroluminescent display device as claimed in

claim 15, wherein said second electrodes are made of aluminum, diamond, diamond like carbon (DLC), calcium, copper-silver alloy, aluminum-silver alloy, or magnesium-silver alloy.